

EXAMINER'S AMENDMENT

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 15, 2008 has been entered.
2. The drawings were received on September 15, 2008. These drawings are acceptable.
3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with S. Warren Hall on September 29, 2008.

The application has been amended as follows:

In the specification, on p. 1, directly after the title, the following paragraph has been added:

This application is the National Stage of PCT/CA03/01719 filed on November 12, 2003, which claims foreign priority to Canadian Application 2,411,881 filed on November 15, 2002.

In the specification, paragraphs [26.1] and [26.2] have been replaced with the following:

[26.1] Figures 4, 5 and 6 illustrate a number of features of the mold blocks of the molding system. The troughs 13 and the crest mounting surfaces 12 of the mold block sections 9 are integral. Furthermore, the troughs 13 have a fixed relationship with the vacuum and cooling channels [[45]] shown in the figures. With this arrangement, the crest forming parts 15 are replaceable on the mounting surfaces 12 to either side of the troughs 13 that are integral to the mold block sections. With this arrangement, the interchangeable face attachments do not affect the relationship of the vacuum and cooling channels [[45]] to the integral troughs. The replaceable crest forming parts allow the depth of the corrugations of the produced pipe to be adjusted. This adjustment is further enhanced by the replaceable cooling plugs associated with the specific crest forming parts. With this arrangement, the outer dimension of each different size pipe produced by the system is fixed as it is determined by the troughs which are integral to the mold block sections. The depths of the corrugations of the pipe are variable by the interchange of the cooling plugs and the use of the different crest forming parts. In the preferred embodiment, the thickness of the inner wall of the double walled pipe is also maintained at a similar section.

[26.2] Figures 4 and 5 also illustrate the step profile 59 of the crest mounting portion 12. This step profile includes [[a]] an upwardly opening center recess 61 centered between two adjacent troughs 13. This recess receives the projecting

Art Unit: 1791

shoulder 63 provided on each crest forming part 15 or 23. The shoulder is sized to have a close fit with the center recess 61. With this arrangement, each crest forming part 15 or 23 is maintained in alignment between two adjacent troughs and is secured in the abutment faces 65 of the mold block sections 9. Each crest forming part is removed from the mold block by movement of the crest forming part upwardly out of the respective upwardly opening recess.

In the claims, claims 37 and 42 have been amended as follows:

Claim 37 (currently amended): A molding system producing corrugated pipe including a first series of mold blocks secured to a drive arrangement moving said mold blocks along a molding path and abutting with a second series of mold blocks secured to a drive arrangement for moving along said molding path with said first and second series of mold blocks forming a moving mold tunnel determining the shape of the corrugated pipe; and wherein

each mold block includes a plurality of troughs integral to the mold block with the troughs spaced in a length of the mold block;

each mold block between adjacent troughs including a crest mounting portion integral with the mold block with each crest mount portion including between adjacent troughs an upwardly opening ~~channel-centered~~ recess on said crest mounting portion;

said molding ~~systems~~ system including first and second crest forming parts where each crest forming part is mountable on one of said cresting mounting portions

Art Unit: 1791

and cooperates with the troughs either side thereof to form corrugations in the corrugated pipe;

said first crest forming parts when secured on said mold blocks producing corrugated pipe with corrugations of a first size and said second crest forming parts when secured on said mold blocks producing corrugated pipe with corrugations of a second size greater than the first size;

each crest forming part including a ~~center~~ projection of a shape for receipt in and abutment with one of said upwardly opening ~~between adjacent troughs~~ recesses;

each mold block with respect to each crest forming part includes ~~recessed attachment brackets~~ mounting bracket arrangements at opposite ends of the crest forming part securing said crest forming part ~~on said central projection~~ in said recess of the respective crest mounting portion; and wherein

each crest forming part is removable from a mold block by release of said ~~attachment brackets~~ mounting bracket arrangements and movement of the crest forming part upwardly out of the respective upwardly opening ~~channel~~ recess.

Claim 42 (currently amended): A pipe molding apparatus for making a continuous length of plastic pipe, said apparatus comprising first and second mold block sections each having profiled faces formed by crests and troughs on the profiled faces of the mold block sections;

a first set of face attachments and a second set of face attachments;

Art Unit: 1791

the first and second sets of face attachments ~~being~~ including projecting shoulders that are interchangeably and releasably insertable ~~on to~~ into upwardly opening recesses in the profiled faces of the mold block sections by separation of said face attachments ~~inwardly~~ upwardly away from said ~~troughs and~~ upwardly opening recesses;

first and second cooling plugs of diameters differing from one another;

the first and second mold block sections circulating to and away from a molding tunnel of the apparatus which contains one of said cooling plugs, the mold tunnel receiving a continuous stream of molten plastic forming pipe with an internal bore over one of the cooling plugs and receiving a further stream of molten plastic forming a wall having an undulating exterior surface around said bore;

the undulating surface defining external diameter of the pipe;

the first mold block sections closing with the second mold block sections to form a moving line of closed mold blocks while circulating through the mold tunnel and the first and second mold block sections parting from one another while circulating away from and back to the mold tunnel;

said apparatus when in a first set up condition producing pipe with a first bore diameter when the first set of face attachments are fitted to the profiled faces of the first and second mold block sections and when the first cooling plug is placed in the mold tunnel and the apparatus when in a second set up condition producing pipe with a second bore diameter different from the first bore diameter while maintaining essentially constant wall thickness of the pipe when the second set of face attachments are fitted to

Art Unit: 1791

the profiled faces of the first and second mold block sections and secured at the ends of the mold block sections and when the second cooling plug is placed in the mold tunnel;

the external diameter of the pipe remaining constant in both the first and the second set up conditions of the apparatus; and wherein each mold block includes integral trough portions that define the external diameter of the pipe;

said integral trough portions having a fixed relationship with vacuum and cooling channels of each mold block.

Claim 43 has been canceled.

Claim 44 has been added as follows:

Claim 44 (new): A molding system as claimed in claim 37 wherein said upwardly opening recess is centered on said crest mounting portion, and wherein said projection is centered on said crest forming part.

4. The following changes to the drawings have been approved by the examiner and agreed upon by applicant: in the drawings filed on September 15, 2008, all occurrences of "45" and lead lines thereto in figs. 4 and 5 will be deleted. In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

5. Claims 37-42 and 44 are allowed.

6. The following is an examiner's statement of reasons for allowance: the prior art of record does not teach or reasonably suggest

Art Unit: 1791

the molding system, as recited by instant claims 37-41 and 44, particularly including the plurality of troughs integral to the mold block with the troughs spaced in a length of the mold block; each mold block between adjacent troughs including the crest mounting portion integral with the mold block with each crest mount portion including between adjacent troughs the upwardly opening recess on said crest mounting portion; said molding system including the first and second crest forming parts where each crest forming part is mountable on one of said cresting mounting portions and cooperates with the troughs either side thereof to form corrugations in the corrugated pipe; said first crest forming parts when secured on said mold blocks producing corrugated pipe with corrugations of a first size and said second crest forming parts when secured on said mold blocks producing corrugated pipe with corrugations of a second size greater than the first size; each crest forming part including the projection of a shape for receipt in and abutment with one of said upwardly opening recesses; each mold block with respect to each crest forming part includes the mounting bracket arrangements at opposite ends of the crest forming part securing said crest forming part in said recess of the respective crest mounting portion; and wherein each crest forming part is removable from the mold block by release of said mounting bracket arrangements and movement of the crest forming part upwardly out of the respective upwardly opening recess; or

the molding apparatus, as recited by instant claim 42, particularly including the first and second sets of face attachments including the projecting shoulders that are interchangeably and releasably insertable into the upwardly opening recesses in the profiled faces of the mold block sections by separation of said face attachments

Art Unit: 1791

upwardly away from said upwardly opening recesses; the first and second cooling plugs of diameters differing from one another; the first and second mold block sections circulating to and away from the molding tunnel of the apparatus which contains one of said cooling plugs, the mold tunnel receiving a continuous stream of molten plastic forming pipe with an internal bore over one of the cooling plugs and receiving a further stream of molten plastic forming a wall having an undulating exterior surface around said bore; the undulating surface defining external diameter of the pipe; said apparatus when in the first set up condition producing pipe with a first bore diameter when the first set of face attachments are fitted to the profiled faces of the first and second mold block sections and when the first cooling plug is placed in the mold tunnel and the apparatus when in the second set up condition producing pipe with a second bore diameter different from the first bore diameter while maintaining essentially constant wall thickness of the pipe when the second set of face attachments are fitted to the profiled faces of the first and second mold block sections and secured at the ends of the mold block sections and when the second cooling plug is placed in the mold tunnel; the external diameter of the pipe remaining constant in both the first and the second set up conditions of the apparatus; and wherein each mold block includes integral trough portions that define the external diameter of the pipe; said integral trough portions having a fixed relationship with vacuum and cooling channels of each mold block.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 1791

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH LEYSON whose telephone number is (571)272-5061. The examiner can normally be reached on M-F 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert B. Davis/
Primary Examiner, Art Unit 1791
9/30/08

/J. L./
Examiner, Art Unit 1791